

ENHANCING THE RECRUITMENT AND RETENTION OF WOMEN AND PERSONS OF COLOR IN SCIENCE: A GUIDED DISCUSSION ABOUT EXEMPLARY PRACTICES IN SCIENCE UNDERGRADUATE RESEARCH MENTORING, G. F. Johns\*, Illinois State University, Department of Physics, Campus Box 4560, Normal, IL 61790-4560, [erosa@phy.ilstu.edu](mailto:erosa@phy.ilstu.edu)

As women continue to strive for equal representation and voice in all spheres of society, it is no surprise that they are still underrepresented in what had been considered *nontraditional* career paths in the hard sciences—biology, chemistry, and physics. Although women students might begin their studies in the sciences, they do not persist to earning a bachelors degree in equal numbers—54% in biology, 45% in chemistry, and 19% in physics (Ivie and Stowe, 2000). Is this *leaky pipeline* of career paths in the sciences merely due to preference—students opting to study in business? Or is it due to climate factors that discourage women from continuing? An earlier pilot study examined best practices in mentoring as a potential factor in women's persistence for this research project. Since most faculty still are men—and hence more opportunities exist for women to be mentored by men—I focused solely on male mentors and female student mentees for this study from each science department (biology, chemistry, and physics) at a large Midwestern university. Although, one of these faculty members was a person of color, the expanded follow up dissertation research involving science faculty at multiple Illinois 4 year institutions will also endeavor to seek out women scientists. Some mentor strategies that emerged as trends were: 1) faculty mentors recognizing and adapting to student developmental needs (new versus advanced students) in initial mentoring stages; 2) faculty mentors hoped to develop certain common skill sets in students that will be useful for their future careers (problem solving and inquiry, some autonomy tempered with collaborative efforts, building self esteem and self confidence in the students, presentations and publication co-authorships, enthusiasm for science, and students being able to articulate information about their research projects to both lay and science audiences); and 3) in terms of mentor self assessment, most faculty mentors tended to measure success based on students' attainment of the aforementioned skills. The Gap—A process model of mentoring emerged through the earlier pilot study that may help educators better understand how their mentoring pedagogies impact undergraduate women science student retention. This presentation will guide faculty mentor attendees through a survey/interview discussion process of reflecting on their science undergraduate mentoring pedagogy and strategies.

G.F. Johns is currently in the dissertation research phase of the Ph.D. in educational administration and foundations at Illinois State University. This research is partially supported with a YWCA of McLean County WINGS Award received May 2008.